

# Pingwen Zhang

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## Education

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- 1988 - 1992      **Ph.D. in mathematics**, Department of Mathematics, Peking University, Beijing, China  
supervised by Prof. Longan Ying
- 1984 - 1988      **Bachelor of Science**, Department of Mathematics, Peking University, Beijing, China

## Working Experience

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- 2020 -              President of Institute of Scientific and Technological Innovation, Peking University
- 2019 -              Vice President, Peking University, China
- 2018 -              Director of National Engineering Laboratory for Big Data Analysis and Application  
Technology, Peking University, China
- 2019 - 2021        Director of Center for Data Science of Peking University, China
- 2018 - 2019        Director of Center for Computational Science and Engineering, China
- 2015 - 2019        Director of Office of Academic Development, Peking University, China
- 2013 - 2015        Executive Vice Dean of School of Mathematical Sciences, Peking University, China
- 2010 - 2017        Director of Laboratory of Mathematics and Applications, Peking University, China
- 2008 - 2012        Vice Dean of School of Mathematical Sciences, Peking University, China
- 2008 - 2012        Deputy Director of Institute of Mathematics, Peking University, China
- 2008 - 2010        Deputy Director of Laboratory of Mathematics and Applications, Peking University, China
- 2001 - 2018        Executive Deputy Director for Center for Computational Science and Engineering,  
Peking University, China
- 1999 - 2008        Director for Department of Scientific& Engineering Computing, School of Mathematical  
Sciences, Peking University, China
- 1996 -              Professor in School of Mathematical Sciences, Peking University, China
- 1994 - 1996        Associate Professor in School of Mathematical Sciences, Peking University, China
- 1992 - 1994        Lecturer in Department of Mathematics, Peking University, China

## Research Fields

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- Modeling and Simulation of Soft Matter (Complex Fluids);
- Applied Analysis and Numerical Analysis
- Big Data Analysis and Applications

## Honors and Awards

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2020	Fellow of Society for Industrial and Applied Mathematics
2016	Fellow of The World Academy of Sciences for the advancement of science in developing countries
2015	Academician of Chinese Academy of Sciences
2014	National Prize of Natural Sciences (Second-prize)
2014	Academic leader of Science Fund for creative research groups of the National Natural Science Foundation of China
2007	The First-Class Prize of Natural Sciences, Higher Education Institutions of MOE
2010	Model of Teachers' Morality, Beijing
2002	National Science Foundation for Distinguished Young Scholars
2002	Changjiang distinguished professor
1999	Feng Kang Prize of Scientific Computing

## Professional Activities

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2016 -	President of China Society for Industry and Applied Mathematics (CSIAM)
2015 -	Associate Director for Scientific Committee of National Lab in Large Scale Scientific Computing
2006 -	Associate Director for Scientific Committee of Computational Physics Lab, Institute of Applied Physics and Computational Mathematics
2001 - 2006	Associate Director for Scientific Committee of National Lab in Large Scale Scientific Computing
2010 - 2014	Vice President of Chinese Computational Mathematics Society
2002 - 2006	Vice President of Chinese Computational Mathematics Society
2005 -	Visiting Professor, research collaborator, Jilin University
2004 -	Visiting Professor, research collaborator, Xiangtan University
2004 -	Visiting Professor, research advisor, Suzhou University
1999 - 2001	Visiting Professor, research advisor, Tsinghua University

## Editorial Board

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2020 -	CSIAM Transactions on Applied Mathematics
2002 -	Applied Mathematical Research Express (AMRX)
2014 -	Multiscale Modeling & Simulations
2010 -	Advances in Mathematics (CHINA)
2004 -	Chinese Journal of Computational Mathematics (CJCM)
2004 -	Chinese Journal of Computational Physics (CJCP)
2007 -	Chinese Journal of Engineering Mathematics
2006 -	Chinese Journal of Mathematics
2004 -	Chinese Northeast Mathematical Journal
2005 -	Communications in Computational Physics (CiCP)
2005 -	Communication in Mathematical Sciences (CMS)
2006 -	International Journal of Nonlinear Science (IJNS)

2007 -	Journal of Computational Mathematics (JCM)
2005 -	Journal of Information and Computational Science (JICS)
2010 -	Applied Mathematics and Mechanics (AMM)
2011 -	Journal of Mathematics in Industry (JMI)
2012 -	Discrete and Continuous Dynamical System - B (DCDS-B)

## Invited Talks

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- 2018 International Congress of Mathematicians (ICM2018), Beijing, 2018
- The 9th International Conference on Computational Physics, Singapore, 2015.1.7-11.
- International Conference on Optimization, Sparsity and Adaptive Data Analysis, Beijing, 2015.3.18-21.
- The 2014 SIAM Annual Meeting (AN14), Chicago, Illinois, USA, 2014.7.7-11.
- Robust Discretization and Faster Solvers for Computable Multi-Physics Models, ICERM, Brown University, 2014.5.12-16.
- The 5th International Conference on Scientific Computing and PDEs, Hong Kong, 2014.12.8-12.
- International Conference on PDE, Guangzhou, 2013.12.6-10.
- 2013 Northeastern Asian Symposium on Methods and Modeling for High Performance Scientific Computing, Chengdu, 2013.9.22-25.
- 2013 International Conference on Mathematical Modeling and Computation, Wuhan, 2013.5.15-19.
- Nonlinear analysis of continuum theories: statics and dynamics, Oxford, 2013.4.8-12.
- Symmetry, bifurcation and order parameters, Cambridge, 2013.1.7-11
- Multiscale Modeling, Simulation, Analysis and applications, Singapore, 2012.1.9-13.
- International Conference on Scientific Computing, Hong Kong, 2012.1.4-7.
- 7th International Congress on Industrial and Applied Mathematics, Vancouver, 2011.7.18-22.
- International Conference on Interdisciplinary Applied Mathematics and Computational Mathematics, Zhejiang, 2011.6.17-21.
- Sino-French Workshop on Contemporary Applied Mathematics, Shanghai, 2011.7.4-8.
- International Conference on Applied Mathematics and Interdisciplinary Research, Tianjin, 2011.6.13-16.
- Kinetic and Fluids, Beijing, 2010.07.
- The 5th China-Italy Conference on Computational and Applied Mathematics. Mathematical models in Life Science: Theory and Simulation, Roma, Italy, 2009.09
- The 3rd Chinese-German Workshop on Computational and Applied Mathematics, Heidelberg, Germany, 2009.9.28 – 10.2.
- International Workshop on Continuum Modeling of Biomolecules, Beijing, 2009.09
- Mathematical Theory and Numerical Methods of Computational Materials simulation and Design, Singapore, 2009.08.
- International Conference on Mathematical Theory and Applications of Liquid Crystal, Ferromagnetism and Related Topics, Guangzhou, 2009.06.
- Computational Multiscale Methods, Oberwolfach, Germany, 2009.06.
- International Workshop on Quantum Systems and Semiconductor Devices: Analysis, Simulations, Applications, Beijing, 2009.04.
- Adaptivity, Robustness and Complexity of Multiscale Algorithm, Edinburgh, England, 2009.03.
- Rheology of complex fluids: Modeling and Numerics, Paris, France, 2009.01.
- The 6th International Conference on Scientific Computing and Applications, Busan, Korea, 2008.06.
- Workshop on the Foundations of numerical PDEs (FoCM), Hong Kong, 2008.06.
- Workshop on Nanoscale Interfacial Phenomena in Complex Fluids, Beijing, 2008.06.

- Canada-China workshop on industrial mathematics, Banff, Canada, 2007.08.
- Multiscale Modeling of Complex Fluids, Maryland, 2007.04.
- International Workshop on Multiscale Analysis and Applications, Singapore, 2006.11.
- The Symposium on Multi-physics and Multi-Scale Computation of Materials-2006, Xian, 2006.11.
- International Conference on PDE and Numerical Analysis, Changsha, 2006.06.
- Workshop on Multiscale Modeling of Complex Fluids, Beijing, Jun. 2006.06.
- International Conference on Recent Advances in Scientific Computations, Beijing, 2006.06.
- International Conferences on Applied Mathematics and Interdisciplinary Research, Tianjin, 2006.06.
- International Symposium on Polymer Physics, Suzhou, 2006.06.
- Interfacial Dynamics in Complex Fluids, Banff, Canada, 2006.05.
- International Conference on Calculus of Variations, PDEs and Nonlinear Analysis, Beijing, 2006.05.
- The second International Conference on Scientific Computing and Partial Differential Equations, Hong Kong, 2005.11.
- The 1st China-Germany Workshop on Computational and Applied Mathematics, Berlin, Germany, 2005.09.
- International conference on scientific computing, Nanjing, 2005.06.
- International conference on multiscale modeling and scientific computing, Peking University, 2005.06.
- Mathematical models in life sciences: Theory and Simulation, Beijing, 2005.06.
- The 3rd joint Chinese-Korean Workshop on Recent Progresses on Numerical Analysis and Its Applications, South Korea, 2005.02.
- Nanoscale Material Interfaces: Experiment, Theory and Simulation, Singapore, 2005.01.
- Workshop on Multiscale Rheological Models for Fluids, Montreal, Canada, 2004.11.
- International Conference on Numerical and Applied PDEs, Changchun, 2004.06.
- International Conference on Frontiers of Applied Mathematics, Beijing, 2004.06.
- The 2nd International Conference on Inverse Problem, Shanghai, 2004.06.
- International Workshop on Wave Propagations, Beijing, 2004.06.
- International Conference on Superconvergence and A Posteriori Estimates in FEM, Changsha, 2004.05.
- International Conference of Scientific Computing, Beijing, 2003.12.
- The 3rd China-Italy Joint Conference on Computational and Applied Mathematics, Grado, Italy, 2003.11.
- The 2nd Chinese-Korean Joint Workshop on Recent Advances in Numerical Analysis and Its applications, Beijing, 2003.02.
- The Third International Workshop on Scientific Computing and Applications, Hong Kong, 2003.01.
- ICM2002-Beijing Satellite Conference on Scientific Computing, Xi'an, 2002.08.
- The 11th International Conference of Fluid Dynamics and Soft Condensed Matter, Shanghai, 2002.08.
- Workshop on Multiscale Analysis and Computation, Taiwan, 2002.06.
- The 3rd China-Sweden Workshop on Computational Mathematics Goteberg, Sweden, 2002.06.
- International symposium on computational & applied PDEs, Zhangjiajie, 2001.06.
- International conference on scientific & engineering computing, Peking University, 2001.03.
- The First Chinese-Korean Joint Workshop on Recent advances in Numerical Analysis and Its Applications, Korea, 2001.02.
- The 2nd Sino-Italian Symposium on Computational and Applied Mathematics, Ischia, Italy, 2000.06.
- The 2nd China-Sweden workshop on Numerical Partial Differential Equations, Hong Kong, 2000.01.
- Conference of Partial Differential Equation and Numerical Method in Mechanics, Hong Kong, 1999.06.
- The First Sino-Italian Symposium on Applied and Computational Mathematics, Beijing, 1998.12.
- China-Japan Symposium on Computational Mathematics, Dalian, 1997.08.
- 96'Symposium on Computational Physics, Institute of Computational Mathematics and Applied Physics, Beijing, 1996.06.
- Summer Research Seminars on Theory and Computations of Fluid Dynamics, Beijing, 1994.06.

## Publications

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1. Jucen Han, Jianyuan Yin, Pingwen Zhang, Apala Majumdar and Lei Zhang, Solution landscape of a reduced Landau–de Gennes model on a hexagon, *Nonlinearity*, Vol. 34, No. 4, 2048-2069, (2021).
2. Wei Wang, Lei Zhang and Pingwen Zhang, Modeling and Computation of Liquid Crystals, *Acta Numerica*, , , 1-89, (2021).
3. Yucen Han, Jianyuan Yin, Pingwen Zhang, Apala Majumdar and Lei Zhang, Solution landscapes of nematic liquid crystals confined on a hexagon, *Materials Science*, , , (2020).
4. Chuansai Zhou, Wen Yuan, Jun Wang, Haiyong Xu, Yong Jiang, Xinmin Wang, Qiuzi Han Wen and Pingwen Zhang, Detecting Suspected Epidemic Cases Using Trajectory Big Data, *CSIAM Transactions on Applied Mathematics*, , , 186-206, (2020).
5. Jianyuan Yin, Yiwei Wang, Jeff Z. Y. Chen, Pingwen Zhang and Lei Zhang, Construction of a Pathway Map on a Complicated Energy Landscape, *Phys. Rev. Lett.*, Vol. 124, No. 9, , (2020).
6. Yucen Han, Yucheng Hu, Pingwen Zhang and Lei Zhang, Transition pathways between defect patterns in confined nematic liquid crystals, *JOURNAL OF COMPUTATIONAL PHYSICS*, , , 1-11, (2019).
7. Haochen Li, Yu, Chen, Jiangjiang Xia, Yingchun Wang, Jiang Zhu and Pingwen Zhang, A Model Output Machine Learning Method for Grid Temperature Forecasts in the Beijing Area, *Advances in Atmospheric Sciences*, Vol. 36, No. 10, 1156-1170, (2019).
8. Yongqiang Cai, Pingwen Zhang and An-Chang Shi, Elastic properties of liquid-crystalline bilayers self-assembled from semiflexible-flexible diblock copolymers, *SOFT MATTER*, Vol. 15, No. 45, 9215-9223, (2019).
9. Tian Tian, Han Wang, Wei Ge and Pingwen Zhang, Detecting Particle Clusters in Particle-Fluid Systems by a Density Based Method, *COMMUNICATIONS IN COMPUTATIONAL PHYSICS*, Vol. 26, No. 5, 1617-1630, (2019).
10. Jie Xu, Fangfu Ye and Pingwen Zhang, A TENSOR MODEL FOR NEMATIC PHASES OF BENT-CORE MOLECULES BASED ON MOLECULAR THEORY, *MULTISCALE MODELING & SIMULATION*, Vol. 16, No. 4, 1581-1602, (2018).
11. Jie Xu and Pingwen Zhang, Onsager-theory-based dynamic model for nematic phases of bent-core molecules and star molecules, *Journal of Non-Newtonian Fluid Mechanics*, Vol. 251, , 43-55, (2018).
12. Jiajie Chen, Pingwen Zhang and Zhifei Zhang, Local minimizer and De Giorgi's type conjecture for the isotropic–nematic interface problem, *calculus of Variations*, Vol. 57, No. 129, , (2018).
13. Yiwei Wang, Pingwen Zhang and Jeff Z. Y. Chen, Formation of three-dimensional colloidal crystals in a nematic liquid crystal, *SOFT MATTER*, Vol. 14, No. 32, 6756-6766, (2018).
14. Yixiang Luo, Jie Xu and Pingwen Zhang, A Fast Algorithm for the Moments of Bingham Distribution, *JOURNAL OF SCIENTIFIC COMPUTING*, Vol. 75, No. 3, 1337-1350, (2018).
15. Jie Xu and Pingwen Zhang, Calculating Elastic Constants of Bent-Core Molecules from Onsager-Theory-Based Tensor Model, *LIQUID CRYSTALS*, Vol. 45, No. 1, 22-31, (2018).
16. Weihua Deng, Buyang Li, Wenyi Tian and Pingwen Zhang, Boundary Problems for the Fractional and Tempered Fractional Operators, *MULTISCALE MODEL. SIMUL.*, Vol. 16, No. 1, 125-149, (2018).
17. Jie Shen, Jie Xu and Pingwen Zhang, Approximations on  $SO(3)$  by Wigner D-matrix and Applications, *JOURNAL OF SCIENTIFIC COMPUTING*, Vol. 74, No. 3, 1706-1724, (2018).
18. Jie Xu and Pingwen Zhang, The Transmission of Symmetry of Liquid Crystals, *Communications in Mathematical Sciences*, Vol. 15, No. 1, 185-195, (2017).
19. Yiwei Wang and Pingwen Zhang, Topological Defects in an Unconfined Nematic Fluid Induced by Single and Double Spherical Colloidal Particles, *Physical Review E*, Vol. 96, No. 4, , (2017).

20. Yang Qu, Ying Wei and Pingwen Zhang, Transition of Defect Patterns from 2D to 3D in Liquid Crystals, *Communications in Computational Physics*, Vol. 21, No. 3, 890-904, (2017).
21. Kai Jiang, Pingwen Zhang and An-Chang Shi, Stability of Icosahedral Quasicrystals in a Simple Model with Two-Length Scales, *J. Phys. Condens. Matter*, Vol. 29, No. 12, , (2017).
22. Zhiyuan Geng, Wei Wang, Pingwen Zhang and Zhifei Zhang, STABILITY OF HALF-DEGREE POINT DEFECT PROFILES FOR 2-D NEMATIC LIQUID CRYSTAL, DISCRETE AND CONTINUOUS DYNAMICAL SYSTEMS, Vol. 37, No. 12, 6227-6242, (2017).
23. Jinhae Park, Wei Wang, Pingwen Zhang and Zhifei Zhang, On Minimizers for the Isotropic-Nematic Interface Problem, *Calculus of Variations and Partial Differential Equations*, Vol. 56, , , (2017).
24. Yongqiang Cai, Pingwen Zhang and An-Chang Shi, Liquid Crystalline Bilayers Self-Assembled from Rod-Coil Diblock Copolymers, *Soft Matters*, Vol. 13, No. 26, 4607-4615, (2017).
25. Dong An, Wei Wang and Pingwen Zhang, On equilibrium configurations of nematic liquid crystals droplet with anisotropic elastic energy, *Research in the Mathematical Sciences*, Vol. 4, No. 7, 6227-6242, (2017).
26. Yu Tong, Yiwei Wang and Pingwen Zhang, Defects Around a Spherical Particle in Cholesteric Liquid Crystals, *Numerical Mathematics-Theory Methods and Applications*, Vol. 10, No. 2, 205-221, (2017).
27. Jie Xu, Chu Wang, An-Chang Shi and Pingwen Zhang, Computing Optimal Interfacial Structure of Modulated Phases, *Communications in Computational Physics*, Vol. 21, No. 1, 1-15, (2017).
28. Kai Jiang, Jiajun Tong and Pingwen Zhang, Stability of Soft Quasicrystals in a Coupled-Mode Swift-Hohenberg Model for Three-Component Systems, *Communications in Computational Physics*, Vol. 19, No. 3, 559-581, (2016).
29. Shiwei Ye, Pingwen Zhang and Je Z.Y. Chen, Nematic ordering of semi-flexible polymers confined on a toroidal surface, *Soft Matter*, Vol. 12, No. 24, 5438-5449, (2016).
30. Yucheng Hu, Yang Qu and Pingwen Zhang, On the Disclination Lines of Nematic Liquid Crystals, *Communications in Computational Physics*, Vol. 19, No. 2, 354-379, (2016).
31. Kai Jiang, Jiajun Tong, Pingwen Zhang and An-Chang Shi, Stability of Two-Dimensional Soft Quasicrystals in Systems with Two Length Scales, *Physical Review E*, Vol. 92, No. 4, , (2015).
32. Wei Wang, Pingwen Zhang and Zhifei Zhang, The Small Deborah Number Limit of the Doi-Onsager Equation to the Ericksen-Leslie Equation, *Communications on Pure and Applied Mathematics*, Vol. 68, No. 8, 1326-1398, (2015).
33. Wei Wang, Pingwen Zhang and Zhifei Zhang, Rigorous Derivation from Landau-De Gennes Theory to Ericksen-Leslie Theory, *SIAM Journal on Mathematical Analysis*, Vol. 47, No. 1, 127-158, (2015).
34. Jiequn Han, Yi Luo, Wei Wang, Pingwen Zhang and Zhifei Zhang, From Microscopic Theory to Macroscopic Theory: a Systematic Study on Modeling for Liquid Crystals, *Archive for Rational Mechanics and Analysis*, Vol. 215, No. 3, 741-809, (2015).
35. Sirui Li, Wei Wang and Pingwen Zhang, Local Well-posedness and Small Deborah Limit of A Molecular-Based Q-Tensor System, *Discrete and Continuous Dynamical Systems - Series B*, Vol. 20, No. 8, 2611-2655, (2015).
36. Qin Liang, Kai Jiang and Pingwen Zhang, Efficient numerical schemes for solving the self-consistent field equations of flexible-semiflexible diblock copolymers, *Mathematical Methods in Applied Sciences*, Vol. 38, No. 18, 4553-4563, (2015).
37. Honghu Liu, Taylan Sengul, Shouhong Wang and Pingwen Zhang, Dynamic Transitions and Pattern Formations for a Cahn-Hilliard Model with Long-Range Repulsive Interactions, *Communications in Mathematical Sciences*, Vol. 13, No. 5, 1289-1315, (2015).
38. Kai Jiang, Weiquan Xu and Pingwen Zhang, Analytic Structure of the SCFT Energy Functional of Multicomponent Block Copolymers, *Communications in Computational Physics*, Vol. 17, No. 5, 1360-1387, (2015).
39. Pingwen Zhang and An-Chang Shi, Application of Self-consistent Field Theory to Self-Assembled Bilayer

- Membrane, Chinese Physics B, Vol. 24, No. 12, , (2015).
40. Qin Liang, Shiwei Ye, Pingwen Zhang and Je Z.Y. Chen, Rigid Linear Particles Confined on a Spherical Surface: Phase Diagram of Nematic Defect States, Journal of Chemical Physics, Vol. 141, No. 24, , (2014).
  41. Wei-quan Xu and Pingwen Zhang, Boundary Effects in Confined Copolymer System and Compressible SCFT Model, Journal of Computational and Applied Mathematics, , , 290-300, (2014).
  42. Haoze Tan, Qi Liao and Pingwen Zhang, Conformation of Polyelectrolytes in Poor Solvents: Variational Approach and Quantitative Comparison with Scaling Predictions, Journal of Chemical Physics, Vol. 140, No. 19, , (2014).
  43. Hao Zhang, Kai Jiang and Pingwen Zhang, Dynamic Transition for Landau-Brazovskii Model, Discrete and Continuous Dynamical Systems - Series B, Vol. 19, No. 2, 607-627, (2014).
  44. Jie Xu and Pingwen Zhang, From Microscopic Theory to Macroscopic Theory - Symmetries and Order Parameters of Rigid Molecules, Science China: Mathematics, Vol. 57, No. 3, 443-468, (2014).
  45. Jinglong Zhu, Pingwen Zhang, Han Wang and Luigi Delle Site, Is There a Third Order Phase Transition for Supercritical Fluids?, Journal of Chemical Physics, Vol. 140, No. 1, , (2014).
  46. Kai Jiang and Pingwen Zhang, Numerical Methods for Quasicrystals, Journal of Computational Physics, , , 428-440, (2014).
  47. Hong Cheng and Pingwen Zhang, A Tensor Model for Liquid Crystals on a Spherical Surface, SCIENCE CHINA Mathematics, Vol. 56, No. 12, 2549-2559, (2013).
  48. Wei Wang, Pingwen Zhang and Zhifei Zhang, Well-Posedness of the Ericksen-Leslie System, Archive for Rational Mechanics and Analysis, Vol. 210, No. 3, 837-855, (2013).
  49. Kai Jiang, Chu Wang, Yunqing Huang and Pingwen Zhang, Discovery of New Metastable Patterns in Diblock Copolymers, Communications in Computational Physics, Vol. 14, No. 2, 443-460, (2013).
  50. Qin Liang, Jianfeng Li, Pingwen Zhang and Je Z.Y. Chen, Modified Diffusion Equation for the Wormlike-chain Statistics in Curvilinear Coordinates, Journal of Chemical Physics, Vol. 138, No. 24, , (2013).
  51. Wei-quan Xu, Kai Jiang, Pingwen Zhang and An-Chang Shi, A Strategy to Explore Stable and Metastable Ordered Phases of Block Copolymers, Journal of Physical Chemistry B, Vol. 117, No. 17, 5296-5405, (2013).
  52. Han Wang, Dan Hu and Pingwen Zhang, Measuring the Spontaneous Curvature of Bilayer Membranes by Molecular Dynamics Simulations, Communications in Computational Physics, Vol. 13, No. 4, 1093-1106, (2013).
  53. Gai Liu, Gang Du, Tiao Lu, Xiaoyan Liu, Pingwen Zhang and Xing Zhang, Simulation Study of Quasi-Ballistic Transport in Asymmetric DG-MOSFET by Directly Solving Boltzmann Transport Equation, IEEE Transactions on Nanotechnology, Vol. 12, No. 2, 168-173, (2013).
  54. Tiejun Li, Pingwen Zhang and Wei Zhang, Nucleation Rate Calculation for the Phase Transition of Diblock Copolymers under Stochastic Cahn-Hilliard Dynamics, Multiscale Modeling & Simulation, Vol. 11, No. 1, 385-409, (2013).
  55. Peiwen Ji, Song Jiang and Pingwen Zhang, Computable Modeling (Chinese), SCIENCE CHINA Mathematics, Vol. 42, No. 6, 1-18, (2012).
  56. Wei Zhang, Tiejun Li and Pingwen Zhang, Numerical Study for the Nucleation of One-Dimensional Stochastic Cahn-Hilliard Dynamics, Communications in Mathematical Sciences, Vol. 10, No. 4, 1105-1132, (2012).
  57. Wei Wang, Pingwen Zhang and Zhifei Zhang, Well-Posedness of Hydrodynamics on the Moving Elastic Surface, Archive for Rational Mechanics and Analysis, Vol. 206, No. 3, 953-995, (2012).
  58. Han Wang, Christof Schuette and Pingwen Zhang, Error estimate of short-range force calculation in inhomogeneous molecular systems, Physical Review E, Vol. 86, No. 2, , (2012).
  59. Han Wang, Pingwen Zhang and Christof Schuette, On the Numerical Accuracy of Ewald Smooth Particle Mesh Ewald and Staggered Mesh Ewald Methods for Correlated Molecular Systems, Journal of Chemical

- Theory and Computation, Vol. 8, No. 9, 3243-3256, (2012).
60. Han Wang, Site Luigi Delle and Pingwen Zhang, On the existence of a third-order phase transition beyond the Andrews critical point: A molecular dynamics study, *Journal of Chemical Physics*, , , (2011).
  61. Tiao Lu, Gang Du, Xiaoyan Liu and Pingwen Zhang, A Finite Volume Method for the Multi Subband Boltzmann Equation with Realistic 2D Scattering in Double Gate MOSFETs, *Communications in Computational Physics*, , , 305-338, (2011).
  62. Chu Wang, Kai Jiang, Pingwen Zhang and An-Chang Shi, Origin of epitaxies between ordered phases of block copolymers, *Soft Matter*, Vol. 7, , 10552-10555, (2011).
  63. Jing Huang, Jilei Wu, Tiejun Li, Xinming Song, Bingzi Zhang, Pingwen Zhang and Xiaoying Zheng, Effect of exposure to trace elements in the soil on the prevalence of neural tube defects in a high-risk area of China, *Biomedical and Environmental Sciences*, , , 94-101, (2011).
  64. Kai Jiang, Yunqing Huang and Pingwen Zhang, Spectral method for exploring patterns of diblock copolymers, *Journal of Computational Physics*, Vol. 229, No. 20, 7796-7805, (2010).
  65. Dan Hu, Peng Song and Pingwen Zhang, Local Existence and Uniqueness of the Dynamical Equations of an Incompressible Membrane in Two-Dimensional Space, *Communications in Mathematical Sciences*, Vol. 8, No. 3, 783-796, (2010).
  66. Xiuyuan Cheng, Ling Lin, Weinan E, Pingwen Zhang and An-Chang Shi, Nucleation of Ordered Phases in Block Copolymers, *Physical Review Letters*, Vol. 104, No. 14, , (2010).
  67. Ling Lin, Xiuyuan Cheng, Weinan E, An-Chang Shi and Pingwen Zhang, A numerical method for the study of nucleation of ordered phases, *Journal of Computational Physics*, Vol. 229, No. 5, 1797-1809, (2010).
  68. Haijun Yu, Guanghua Ji and Pingwen Zhang, A Nonhomogeneous Kinetic Model of Liquid Crystal Polymers and Its Thermodynamic Closure Approximation, *Communications in Computational Physics*, Vol. 7, No. 2, 383-402, (2010).
  69. Guanghua Ji, Haijun Yu and Pingwen Zhang, A Kinetic-Hydrodynamic Simulation of Liquid Crystalline Polymers Under Plane Shear Flow: 1+2 Dimensional Case, *Communications in Computational Physics*, Vol. 4, No. 5, 1194-1215, (2008).
  70. Hui Zhang and Pingwen Zhang, On the New Multiscale Rodlike Model of Polymeric Fluids, *SIAM Journal on Mathematical Analysis*, Vol. 40, No. 3, 1246-1271, (2008).
  71. Dongzhuo Zhou, An-Chang Shi and Pingwen Zhang, Numerical simulation of phase separation coupled with crystallization, *Journal of Chemical Physics*, , , (2008).
  72. Yan Ding, Tiejun Li, Dongxiao Zhang and Pingwen Zhang, Adaptive Stroud stochastic collocation method for flow in random porous media via Karhunen-Loeve expansion, *Communications in Computational Physics*, Vol. 4, No. 1, 102-123, (2008).
  73. Haiyan Jiang, Sihong Shou, Wei Cai and Pingwen Zhang, Boundary treatments in non-equilibrium Green's function (NEGF) methods for quantum transport in nano-MOSFETs, *Journal of Computational Physics*, Vol. 227, No. 13, 6553-6573, (2008).
  74. Xia Ji, Wei Cai and Pingwen Zhang, Reflection/transmission characteristics of a dis-continuous Galerkin method for Maxwell's equations in dispersive inhomogeneous media, *Journal of Computational Mathematics*, Vol. 26, No. 3, 347-364, (2008).
  75. Peng Song and Pingwen Zhang, Numerical simulation of fluid membranes in two-dimensional space, *Communications in Computational Physics*, Vol. 3, No. 4, 794-821, (2008).
  76. Pingwen Zhang and Xinwei Zhang, An efficient numerical method of Landau-Brazovskii model, *Journal of Computational Physics*, Vol. 227, No. 11, 5859-5870, (2008).
  77. Han Wang, Kun Li and Pingwen Zhang, Crucial properties of the moment closure model FENE-QE, *Journal of Non-Newtonian Fluid Mechanics*, , , 2-3, (2008).
  78. Lingyun Zhang, Hui Zhang and Pingwen Zhang, Global existence of weak solutions to the regularized Hookean dumbbell model, *Communications in Mathematical Sciences*, Vol. 6, No. 1, 85-124, (2008).



79. Guoxian Chen, Huazhong Tang and Pingwen Zhang, Second-order accurate Godunov scheme for multicomponent flows on moving triangular meshes, *Journal of Scientific Computing*, Vol. 34, , 64-86, (2008).
80. Guanghua Ji, Qi Wang, Pingwen Zhang, Hongyun Wang and Hong Zhou, Steady states and their stability of homogeneous rigid extended nematic polymers under imposed magnetic fields, *Communications in Mathematical Sciences*, Vol. 5, No. 4, 917-950, (2007).
81. Congmin Wu, Tiezhen Qian and Pingwen Zhang, Non-equilibrium molecular-dynamics measurement of the Leslie coefficients of a Gay-Berne nematic liquid crystal, *Liquid Crystals*, Vol. 34, No. 10, 1175-1184, (2007).
82. Hui Zhang and Pingwen Zhang, Stable dynamic states at the nematic liquid crystals in weak shear flow, *Physica D-Nonlinear Phenomena*, Vol. 232, No. 2, 156-165, (2007).
83. Dan Hu, Pingwen Zhang and Weinan E, Continuum theory of a moving membrane, *Physical Review E*, , No. 041605, , (2007).
84. Yana Di, Ruo Li, Tao Tang and Pingwen Zhang, Level set calculations for incompressible two-phase flows on a dynamically adaptive grid, *Journal of Scientific Computing*, , , 1-2, (2007).
85. Tiejun Li and Pingwen Zhang, Mathematical analysis of multi-scale models of complex fluids, *Communications in Mathematical Sciences*, Vol. 5, No. 1, 1-51, (2007).
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